NAMAN YESHWANTH KUMAR

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EDUCATION

Master of Science **Expected: May 2026**
Arizona State University - Computer Eng (GPA 3.8/4.0) **Tempe, AZ**

- Relevant coursework: **Advanced Computer Architecture**, **Hardware Co-design**, **SoC Design**, **VLSI**, **Artificial Intelligence**, Reinforcement Learning in Robotics, Perception in Robotics, Foundations of Algorithms

Nanodegree - Self-Driving Car Engineer **February 2023**
Udacity

- Key Areas: Machine Learning, Sensor Fusion, Computer Vision, Path Planning, and Control, with hands-on projects in object detection, trajectory tracking, and autonomous vehicle motion

Bachelor of Engineering **June 2022**
BMS College of Engineering - Electrical and Electronics Eng **Bengaluru, India**

TECHNICAL SKILLS

Machine Learning & AI: PyTorch | TensorFlow | Machine Learning | Statistical Modeling | Data Analytics | Computer Vision | Gen AI

Programming: Python | C++ | MATLAB | SQL | Shell Script | JavaScript

Circuit Design & EDA Tools: Synopsys Design Compiler (DC) | Cadence Innovus | Cadence Virtuoso | Siemens ModelSim | SystemVerilog | LTspice

Hardware-Software Co-Design: Computer Architecture | GPU Development | SoC Design | VLSI | Hardware Acceleration | ARM | Raspberry Pi

Development Tools: Docker | Git | AWS | ROS 2 | Simulink | CoppeliaSim | CI/CD Pipelines

WORK EXPERIENCE

Software Developer **October 2022 - April 2024**
NCR GOLD **Bengaluru, India**

- Designed and deployed production-grade Python (Django) ordering platform processing 10,000+ orders; implemented database optimization, caching strategies, and performance monitoring for scalable enterprise software.
- Engineered containerized deployment architecture using Docker and AWS cloud infrastructure, implementing CI/CD pipelines for automated testing, deployment, and monitoring of production systems.

Research Intern **October 2021 - August 2022**
Indian Institute of Science **Bengaluru, India**

- Led motor optimization using Ansys Maxwell electromagnetic simulation, developing mathematical energy models and performance prediction algorithms for 1.5kW BLDC motor; improved efficiency by 15% through data-driven design iterations.
- Implemented advanced control algorithms (FOC) and battery management systems for eVTOL aircraft in MATLAB/Simulink; applied statistical modeling and machine learning techniques to predict battery degradation patterns and optimize flight performance.

PROJECT EXPERIENCE

Trezzit - Full Stack Bill Splitting Application **February 2025 - Present**

- Architected and deployed a production-grade full-stack application using Python (Django) and React, implementing machine learning-powered expense categorization with Google Gemini AI to serve 120+ active users.
- Designed scalable backend architecture with performance optimization, database query optimization, and comprehensive testing infrastructure; demonstrates proficiency in building production-quality software systems.
- Engineered ML model integration pipeline for real-time expense analysis and intelligent categorization, reducing manual categorization time by 75% through automated statistical modeling and pattern recognition.

Intel Automated Self-Checkout (Open Source Contributor) **January 2025 - February 2025**

- Developed Python framework for LiDAR sensor data processing and analysis, implementing statistical modeling algorithms for object detection and tracking in autonomous retail systems; contributions merged to main branch.
- Optimized sensor fusion algorithms using C++ for performance-critical data processing modules, achieving 3x throughput improvement in real-time point cloud analysis; engineered CI/CD pipeline integration using Docker.

Raspberry Pi Self-Driving Car **February 2022 - July 2022**

- Designed and implemented end-to-end autonomous driving system integrating computer vision models (lane detection, traffic sign recognition) with hardware control systems via I2C protocol on ARM-based Raspberry Pi platform.
- Developed and trained custom neural networks in TensorFlow for real-time image classification and object detection, optimizing models for embedded hardware constraints and achieving 30 FPS inference on resource-limited platform; awarded Best Project among 40 submissions.

AWARDS & HONORS

- Won the 'Best Use of AI' award at Strategy X DevHacks'25 at ASU for developing AdaptED AI, a platform leveraging Google's Gemini AI to generate personalized learning paths and resources for students.
- Secured second place in the Hack SoDA 2024 at ASU with a team of four, developing PassGen, a secure and offline Chrome Extension for generating unique passwords, during a 24-hour hackathon sponsored by Amazon.
- Ranked among the Top Ten teams in the e-Yantra national-level robotics competition organized by IIT Bombay, for designing and developing a self-balancing dairy bike on CoppeliaSim, February 2022.